

REMARKS

Claims 1-26 are pending in the present application and currently under examination. Claims 1, 8, 9, 10, 18 and 19 have been amended in order to more clearly define the claimed invention and further distinguish the claimed invention from the cited prior art. No new matter has been entered by the amendments to these claims.

Claim Objections Under 37 CFR 1.75(c)

Claim 8 stands objected to under 37 CFR 1.75(c) as being improper form because of a multiple dependent claim referring to another multiple dependent claims. In this regard, applicant has amended the claim 8 to refer to claim 1 only.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-9, 11-18 and 20-26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over **Tachibana** (US 4,035,563) as evident by **Gloesener** (US 5,214,092) in view of the product literature of **Fujian Sannong Calcium Carbonate Co.**, on Nano calcium carbonate (1993). Further, claims 10 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over **Tachibana** (US 4,035,563) as evident by **Gloesener** (US 5,214,092) in view of the product literature of **Fujian Sannong Calcium Carbonate Co.**, on Nano calcium carbonate (1993), further in view of **Kumaki** (US 2002/0,188,077).

Claims 1, 9 and 18 are independent claims. Claims 2 to 8, 10 to 17 and 19 to 26 are dependent directly or indirectly from the independent claims 1, 9 and 18 respectively.

In response to these reasons for rejection, Applicant has amended independent claims 1, 9 and 18 in order to more clearly define the claimed invention, i.e., to add a further limitation of *“nano calcium carbonate being modified by a metal salt of an organic acid.”* It is noted that this limitation is fully supported by the originally filed specification, specifically, by lines 12 to 19 on page 9 of the disclosure. Dependent claims 10 and 19 have been amended to delete one element “chlorinated

polyethylene” from the Markush group.

Applicant’s invention recited in currently amended independent claims 1, 9 and 18 is directed to a nano calcium carbonate/vinyl chloride monomer dispersion and a PVC based nanocomposite resin composition that contains a dispersed precipitated calcium carbonate (PCC) having a particle size smaller than $1\mu\text{m}$, preferably 40~70nm using a monomeric/polymeric dispersant having carboxylic acid, phosphoric acid or a salt thereof. In the outstanding Office Action, the Examiner has asserted as follows: *“the difference between the invention of claims 1~9, 11~18, 20~26 and Tachibana et al. is that Tachibana et al. are silent on a composition comprising 1~30 parts by weight of nano calcium carbonate per 100 parts by weight of vinyl chloride monomer; however the product literature of Fujian Sannong Calcium Carbonate Co., on Nano calcium carbonate teaches that nano calcium carbonates are suitable as filler for polyvinyl chloride polymers.”*

As clearly shown in the currently amended independent claims 1, 9 and 18, applicant’s invention involves modification of the nano calcium carbonate by a metal salt of an organic acid. More specifically, the surface of the nano calcium carbonate is hydrophilic. Thus, in the applicant’s invention, the nano calcium carbonate is treated with a metal salt of an organic carboxylic acid such as fatty acid, resin acid, and the like, for example, in order to wet the vinyl chloride monomer. This feature is fully described in lines 12 to 17 on page 9 of this application originally filed.

However, neither **Tachibana, Gloesener, Fujian** nor **Kumaki** discloses or teaches the modification of nano calcium carbonate by a metal salt of an organic acid. Therefore, applicant respectfully submits that **Tachibana, Gloesener, Fujian, Kumaki** or **any combination thereof** fails to suggest or teach any one of ordinary skill in the art as to how to reach the Applicant’s claimed invention recited in the currently amended independent claims 1, 9 and 18. Thus, it is believed that currently amended independent claims 1, 9 and 18 are non-obvious over the Examiner’s citations and allowable. Furthermore, claims 2 to 8, 10 to 17 and 19 to 26 are also believed to be allowable by virtue of their direct or indirect independency from the allowable claims 1, 9 and 18 respectively.

Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that this application is now in an allowable condition. Reconsideration and subsequent allowance of this application are therefore courteously requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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Date: December 20, 2007